Release notes for ENDF/B Development n-058_Ce_142 evaluation



April 26, 2017

- checkr Warnings:
 - 1. A previous error halted parsing of the current section MAT=5843, MF=1, MT=451 (1): Parsing stopped

ERROR(S) FOUND IN MAT=5843, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER 277 TO 327

- checkr Errors:
 - 1. A variable is outside the allowed ENDF range MAT=5843, MF=1, MT=451 (0): Variable range

ERROR(S) FOUND IN MAT=5843, MF= 1, MT=451
MOD = 1 OUT OF RANGE 0 - 0 RECORD NUMBER 277

2. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=2, MT=151 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 2, MT=151
SECTION 2/151 NOT IN DIRECTORY RECORD NUMBER 329

3. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=1 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 1
SECTION 3/ 1 NOT IN DIRECTORY RECORD NUMBER 447

4. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=2 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 2
SECTION 3/ 2 NOT IN DIRECTORY RECORD NUMBER 519

5. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=4 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 4
SECTION 3/ 4 NOT IN DIRECTORY RECORD NUMBER 591

6. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=16 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 16
SECTION 3/ 16 NOT IN DIRECTORY RECORD NUMBER 606

7. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=17 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 17 SECTION 3/ 17 NOT IN DIRECTORY

RECORD NUMBER 617

8. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 22 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 22 SECTION 3/ 22 NOT IN DIRECTORY

RECORD NUMBER 625

9. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 28 SECTION 3/ 28 NOT IN DIRECTORY

RECORD NUMBER 641

10. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 32 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 32 SECTION 3/ 32 NOT IN DIRECTORY

RECORD NUMBER 651

11. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=33 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 33 SECTION 3/ 33 NOT IN DIRECTORY

RECORD NUMBER 658

12. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=51 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 51 SECTION 3/ 51 NOT IN DIRECTORY

RECORD NUMBER 666

13. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=52 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 52 SECTION 3/ 52 NOT IN DIRECTORY

RECORD NUMBER 681

14. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=53 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 53 SECTION 3/ 53 NOT IN DIRECTORY

RECORD NUMBER 694

15. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=54 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 54 SECTION 3/ 54 NOT IN DIRECTORY

RECORD NUMBER 706

16. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 55 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 55 SECTION 3/ 55 NOT IN DIRECTORY

RECORD NUMBER 718

17. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 56 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 56 SECTION 3/ 56 NOT IN DIRECTORY

RECORD NUMBER 729

18. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 57 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 57 SECTION 3/ 57 NOT IN DIRECTORY

RECORD NUMBER 740

19. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=58 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 58 SECTION 3/ 58 NOT IN DIRECTORY

RECORD NUMBER 750

20. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=59 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 59 SECTION 3/ 59 NOT IN DIRECTORY

RECORD NUMBER 760

21. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=91 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT= 91 SECTION 3/ 91 NOT IN DIRECTORY

RECORD NUMBER 770

22. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=102 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT=102 SECTION 3/102 NOT IN DIRECTORY

RECORD NUMBER 779

23. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=3, MT=103 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT=103 SECTION 3/103 NOT IN DIRECTORY

RECORD NUMBER 800

24. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 104 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT=104 SECTION 3/104 NOT IN DIRECTORY

RECORD NUMBER 814

25. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 105 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT=105 SECTION 3/105 NOT IN DIRECTORY

RECORD NUMBER 826

26. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 3, MT = 107 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 3, MT=107 SECTION 3/107 NOT IN DIRECTORY

RECORD NUMBER 838

27. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 2 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 2 SECTION 4/ 2 NOT IN DIRECTORY

RECORD NUMBER 855

28. Missing a section in directory so your directory is messed up. This error will break everything also

erything else MAT=5843, MF=4, MT=16 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 16 SECTION 4/ 16 NOT IN DIRECTORY

RECORD NUMBER 1027

29. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 17 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 17 SECTION 4/ 17 NOT IN DIRECTORY

RECORD NUMBER 1038

30. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=4, MT=22 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 22

SECTION 4/ 22 NOT IN DIRECTORY

RECORD NUMBER 1049

31. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 28 SECTION 4/ 28 NOT IN DIRECTORY

RECORD NUMBER 1060

32. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 32 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 32 SECTION 4/ 32 NOT IN DIRECTORY

RECORD NUMBER 1071

33. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 33 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 33 SECTION 4/ 33 NOT IN DIRECTORY

RECORD NUMBER 1082

34. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 51 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 51 SECTION 4/51 NOT IN DIRECTORY

RECORD NUMBER 1093

35. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 52 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 52 SECTION 4/52 NOT IN DIRECTORY

RECORD NUMBER 1210

36. Missing a section in directory so your directory is messed up. This error will break everything else MAT = 5843, MF = 4, MT = 53 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 53 SECTION 4/53 NOT IN DIRECTORY

RECORD NUMBER 1237

37. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 54 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 54 SECTION 4/54 NOT IN DIRECTORY

RECORD NUMBER 1264

38. Missing a section in directory so your directory is messed up. This error will break everything else MAT = 5843, MF = 4, MT = 55 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 55 SECTION 4/55 NOT IN DIRECTORY

RECORD NUMBER 1351

39. Missing a section in directory so your directory is messed up. This error will break everything else MAT = 5843, MF = 4, MT = 56 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 56 SECTION 4/ 56 NOT IN DIRECTORY

RECORD NUMBER 1377

40. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 57 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 57 SECTION 4/ 57 NOT IN DIRECTORY

RECORD NUMBER 1403

41. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 58 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 58 SECTION 4/ 58 NOT IN DIRECTORY

RECORD NUMBER 1429

42. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 59 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 59 SECTION 4/ 59 NOT IN DIRECTORY

RECORD NUMBER 1455

43. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 4, MT = 91 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 4, MT= 91 SECTION 4/ 91 NOT IN DIRECTORY

RECORD NUMBER 1481

44. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 5, MT = 16 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 5, MT= 16 SECTION 5/ 16 NOT IN DIRECTORY

RECORD NUMBER 1509

45. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 5, MT = 17 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 5, MT= 17 SECTION 5/ 17 NOT IN DIRECTORY

RECORD NUMBER 1589

46. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=5, MT=22 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 5, MT= 22 SECTION 5/ 22 NOT IN DIRECTORY

RECORD NUMBER 1633

47. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 5, MT = 28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 5, MT= 28 SECTION 5/ 28 NOT IN DIRECTORY

RECORD NUMBER 1869

48. Missing a section in directory so your directory is messed up. This error will break everything else MAT=5843, MF=5, MT=32 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 5, MT= 32 SECTION 5/ 32 NOT IN DIRECTORY

RECORD NUMBER 1971

49. Missing a section in directory so your directory is messed up. This error will break everything else

MAT=5843, MF= 5, MT= 33 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 5, MT= 33 SECTION 5/ 33 NOT IN DIRECTORY

RECORD NUMBER 2012

50. Missing a section in directory so your directory is messed up. This error will break everything else

MAT = 5843, MF = 5, MT = 91 (0): Directory (b)

ERROR(S) FOUND IN MAT=5843, MF= 5, MT= 91 SECTION 5/ 91 NOT IN DIRECTORY

RECORD NUMBER 2064

- psyche Warnings:
 - 1. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ISOTOPE MASS = 142. L = 0 / STRENGTH FUNCTION IS 4.14898E-04 / AVERAGE GAMMA WIDTH 3.00000E-02 / LIES OUTSIDE LIMITS 4.00000E-02 TO 9.00000E+00 EV. (0): URR str. ftn.

FILE 2

SECTION 151

ISOTOPE MASS = 142. L = 0

STRENGTH FUNCTION IS 4.14898E-04

AVERAGE GAMMA WIDTH 3.00000E-02

- ... [1 more lines]
- 2. Strength function in URR not in agreement with PSYCHE's expectations FILE 2 / SECTION 151 / ISOTOPE MASS = 142. L = 1 / STRENGTH FUNCTION IS 6.30421E-05 / AVERAGE GAMMA WIDTH 3.00000E-02 / LIES OUTSIDE LIMITS 4.00000E-02 TO 9.00000E+00 EV. (0): URR str. ftn.

FILE 2

SECTION 151

ISOTOPE MASS = 142. L = 1

STRENGTH FUNCTION IS 6.30421E-05

AVERAGE GAMMA WIDTH 3.00000E-02

- ... [1 more lines]
- 3. Non-threshold reaction with Q value differing from PSYCHE's expectations FILE 3 / SECTION 22 / THE CALCULATED Q 9.83873E+05 DISSAGREES WITH THE GIVEN Q 1.31609E+06 (0): Iffy Q

FILE 3

SECTION 22

THE CALCULATED Q 9.83873E+05 DISSAGREES WITH THE GIVEN Q 1.31609E+06

4. Non-threshold reaction with Q value differing from PSYCHE's expectations FILE 3 / SECTION 102 / THE CALCULATED Q 4.80612E+06 DISSAGREES WITH THE GIVEN Q 5.14443E+06 (0): Iffy Q

FILE 3 SECTION 102

THE CALCULATED Q 4.80612E+06 DISSAGREES WITH THE GIVEN Q 5.14443E+06

5. Non-threshold reaction with Q value differing from PSYCHE's expectations FILE 3 / SECTION 107 / THE CALCULATED Q 5.62406E+06 DISSAGREES WITH THE GIVEN Q 6.04420E+06 (0): Iffy Q

FILE 3 SECTION 107

THE CALCULATED Q 5.62406E+06 DISSAGREES WITH THE GIVEN Q 6.04420E+06

- fudge-4.0 Warnings:
 - 1. Missing a channel with a particular angular momenta combination resonances / resolved / MultiLevel_BreitWigner (Error # 0): missingResonanceChannel

WARNING: Missing a channel with angular momenta combination L=0, J=1.5 and S=1.5 for "capture" WARNING: Missing a channel with angular momenta combination L=1, J=0.5 and S=1.5 for "capture" WARNING: Missing a channel with angular momenta combination L=1, J=1.5 and S=1.5 for "capture" WARNING: Missing a channel with angular momenta combination L=1, J=2.5 and S=1.5 for "capture"

- fudge-4.0 Errors:
 - 1. Calculated and tabulated Q values disagree. reaction label 11: n[multiplicity:'2'] + Ce141 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -7334761.37008667 eV vs -7.1731e6 eV!

2. Calculated and tabulated Q values disagree.

reaction label 12: n[multiplicity:'3'] + Ce140 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -12762904.82563782 eV vs -1.26062e7 eV!

3. Calculated and tabulated Q values disagree. reaction label 13: n + H1 + La141 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -9054297.825241089 eV vs -8820630. eV!

4. Calculated and tabulated Q values disagree. reaction label 14: n + H2 + La140 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -13518239.7205658 eV vs -1.32746e7 eV!

5. Calculated and tabulated Q values disagree. reaction label 15: n + H3 + La139 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -12421984.70184326 eV vs -1.22546e7 eV!

6. Calculated and tabulated Q values disagree. reaction label 16: Ce143 + gamma (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 4979768.293548584 eV vs 5144430. eV!

7. Calculated and tabulated Q values disagree. reaction label 17: n + He4 + Ba138 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 1133166.523468018 eV vs 1316090. eV!

8. Calculated and tabulated Q values disagree. reaction label 18: $H1 + La142_s$ (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -3886426.847381592 eV vs -3734520. eV!

9. Calculated and tabulated Q values disagree. reaction label 19: H2 + La141-s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -6829731.724304199 eV vs -6510510. eV!

10. Calculated and tabulated Q values disagree. reaction label 20: H3 + La140-s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -7261006.779953003 eV vs -7089460. eV!

11. Calculated and tabulated Q values disagree. reaction label 21: $He4 + Ba139_s$ (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 5856597.472671509 eV vs 6.0442e6 eV!

• njoy2012 Warnings:

1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 16 only mf4/mf5 provided

2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 17 only mf4/mf5 provided

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things! groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 22 only mf4/mf5 provided

- 4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

 groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)
 - ---message from conver---cannot do complete particle production for mt= 28 only mf4/mf5 provided
- 5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
 - groupr...compute self-shielded group-averaged cross-sections (4): GROUPR/conver (0)
 - ---message from conver---cannot do complete particle production for mt= 32 only mf4/mf5 provided
- 6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

 groupr...compute self-shielded group-averaged cross-sections (5): GROUPR/conver (0)
 - ---message from conver---cannot do complete particle production for mt= 33 only mf4/mf5 provided
- 7. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!

 groupr...compute self-shielded group-averaged cross-sections (6): GROUPR/conver (0)
 - ---message from conver---cannot do complete particle production for mt= 91 only mf4/mf5 provided